

## **REMARKS**

Claims 1-60 are cancelled without prejudice or disclaimer. New claims 61-87 are added. Therefore, claims 61-87 are the claims currently pending in the Application.

New claims 61-87 are added so are more fully to claim patentable aspects of Applicants' invention. These new claims are fully supported by Applicants' disclosure.

### ***Information Disclosure Statement***

Applicants thank the Examiner for acknowledging review and consideration of the references cited in the Information Disclosure Statement filed on March 30, 2001.

### ***Rejection of Claims of 41 and 42 under 35 U.S.C. § 112, Second Paragraph***

Claims 41 and 42 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 41 and 42 are cancelled without prejudice or disclaimer. Therefore, the rejection is moot and should now be withdrawn.

### ***Art Rejections***

All of the claims (claims 1-60) are rejected over Kupiec, U.S. Patent No. 5,696,962, alone or in combination with additional references, as follows:

Claims 1-4, 6-15, 17-24, 26-30, 36-50 and 52-60 are rejected under 35 U.S.C. § 102 as being anticipated by Kupiec. Claims 5, 16, 25 and 51 are rejected under 35 U.S.C. § 103 as being obvious from Kupiec. Claims 31-34 are rejected under 35 U.S.C. § 103 as being obvious

from Kupiec and Robinson (“Relevance...”), and claim 35 is rejected under 35 U.S.C. § 103 as being obvious from Kupiec and Robinson (“Okapi...”).

Claims 1-60 are cancelled without prejudice or disclaimer. Therefore, these rejections are moot.

According to an aspect of Applicants' claimed invention, a methodology is disclosed which “automatically learns multiple query transformations and that can be optimized for each information retrieval system” (Specification, page 3, lines 18-19). As discussed in the Specification, the methodology learns by analyzing a collection of known question-answer pairs (Specification, pages 6-11). According to an aspect of Applicants' claimed invention, candidate query transformations are generated to reflect the actual nature of the questions to be handled by the system and not the biases of the search engine designer.

For at least the following reasons, Applicants' claimed invention is neither anticipated by nor obvious from Kupiec. By way of example, independent claims 61 and 79 recite that “candidate query transformations” are generated “from a collection of question-answer pairs.”

Kupiec discloses a natural-language processing approach, directed to a strategy for transforming a natural language input string into an effective Boolean query by focusing on long noun phrases. In particular, Kupiec is directed to an information retrieval system which receives a natural language input string and which can reformulate the input string into a series of Boolean queries. As with other such prior art information retrieval architectures, Kupiec uses a specific and somewhat ad hoc transformation approach that has been crafted and tweaked by the inventors. Kupiec discloses parsing the words of the natural language query for long noun phrases that are expected to be useful when reformulated in Boolean form (Kupiec, e.g. col. 8,

lines 42-65); and then performing a variety of refinement techniques to broaden and narrow the Boolean query in order to improve the nature of the results (Kupiec, e.g., col. 12, lines 14-65).

Kupiec and the other cited references do not disclose or suggest “generating” some “candidate query transformations” from a “collection of question-answer pairs” in such an automated fashion, as *inter alia* required by independent claims 61 and 79.

Independent claims 61 and 79 also point to another patentable distinction over Kupiec. The “candidate query transformations” are compared and evaluated by “executing” queries on the actual “information retrieval system” using the “candidate query transformations.” In other words, these query transformations are candidates which are further evaluated based on the information retrieval system used with the present invention. The actual query transformation selected for use with the information retrieval system may be one that provides optimal performance based on the evaluation of the performance of the candidate query transformations.

Kupiec and the other cited references, do not disclose “selecting” from a group of “candidate query transformations” based on an evaluation of their actual performance on the specific information retrieval system. Therefore, Kupiec and the other cited references, even taken together in combination, do not disclose or suggest the recitations of independent claims 61 and 79.

Claims 62-78 depend (directly or indirectly) from independent claim 61, and claims 80-87 depend (directly or indirectly) from independent claim 79. Therefore, claims 62-78 and 80-87 incorporate novel and non-obvious features of their respective base claims and are thus patentably distinguishable over the prior art for at least the reasons that their respective base claims are patentably distinguishable over the prior art. Accordingly, this rejection should now be withdrawn.

In view of the foregoing discussion, Applicants believe that the Application is now allowable, and respectfully requests that the Examiner allow the Application. Should the Examiner have any questions regarding this Amendment, or regarding the Application generally, the Examiner is invited to telephone the undersigned attorney.

Respectfully submitted,



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Encl: Petition for Extension of Time, with fee